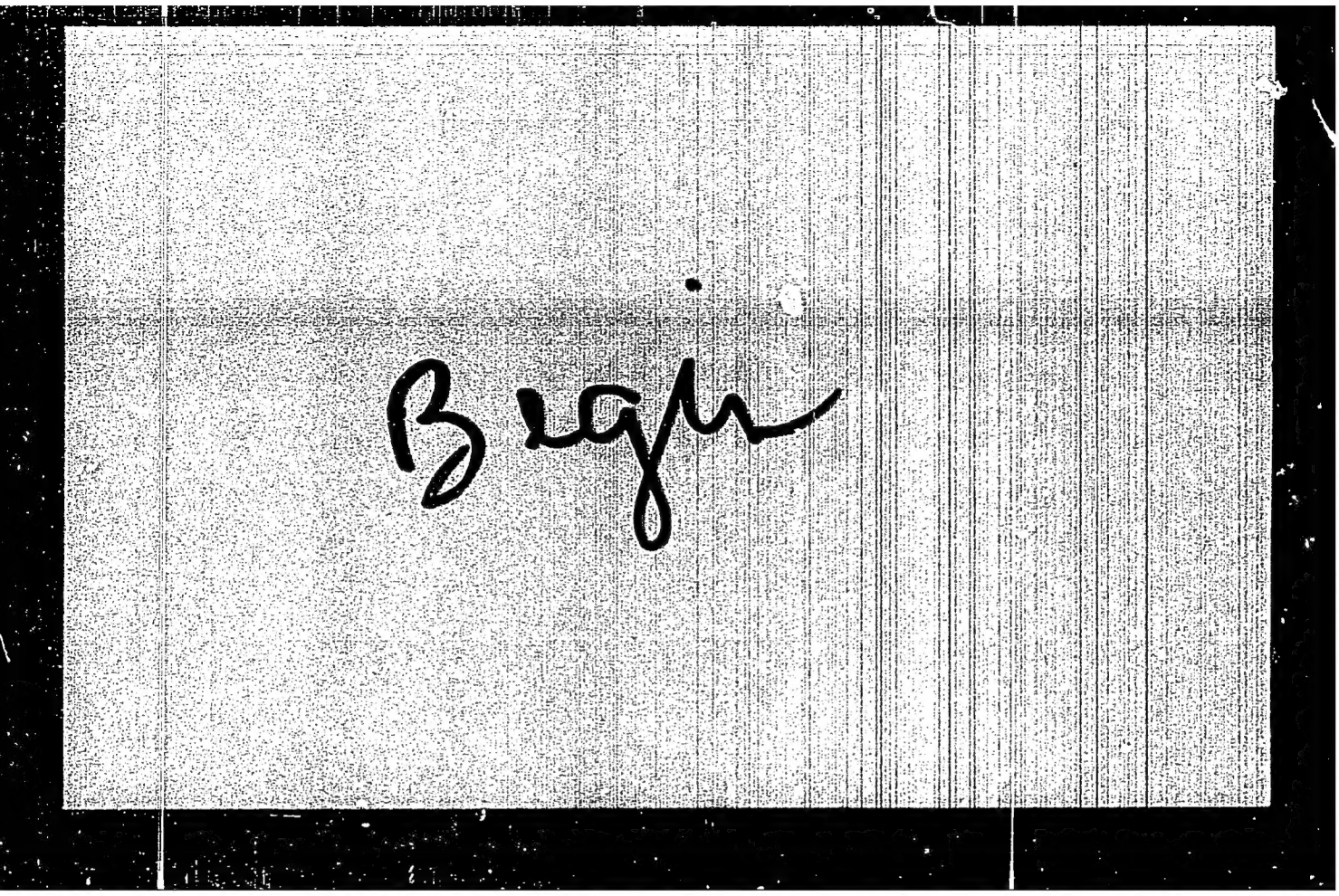

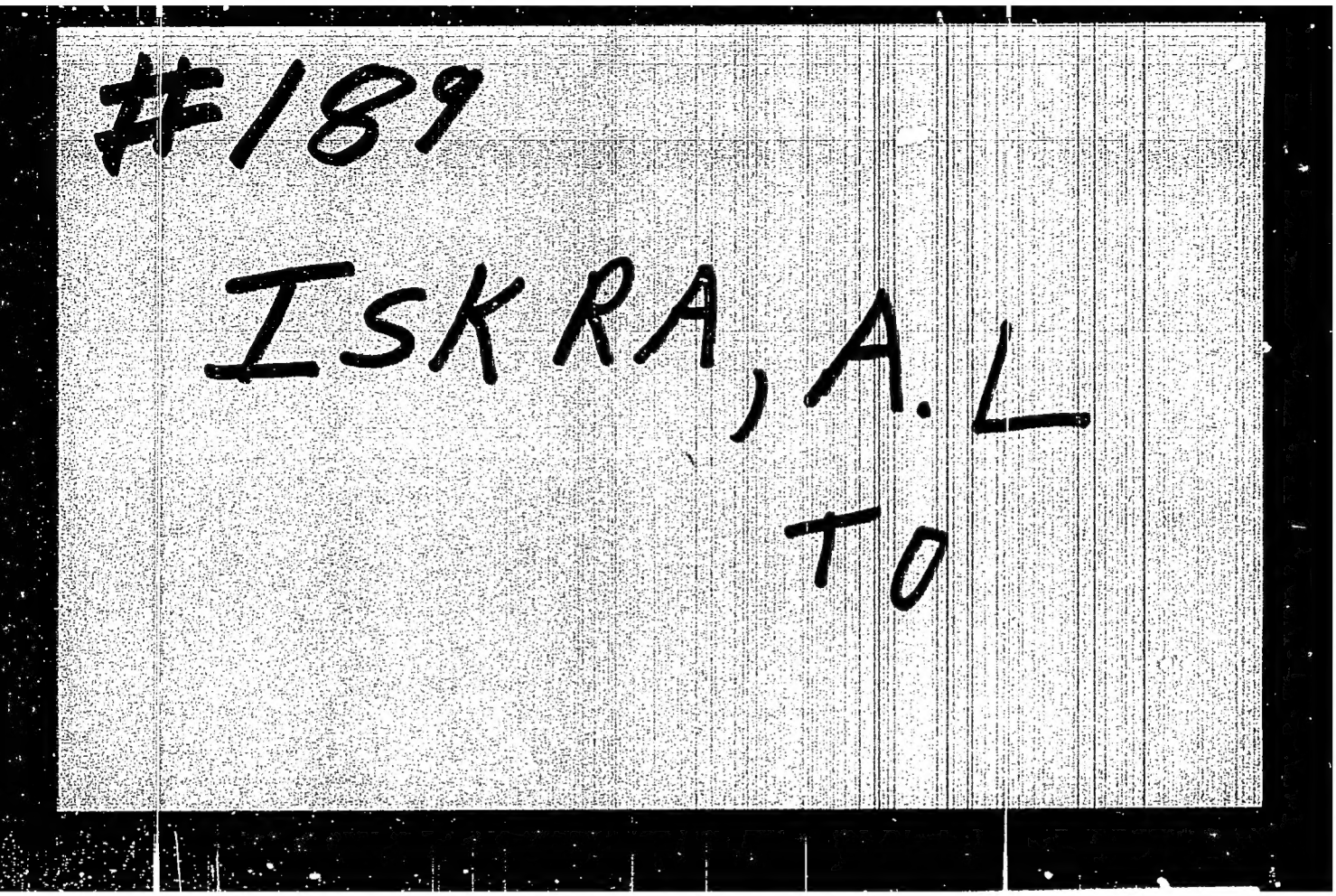

39936

S/258/62/002/001/0[illegible]/013
I028/I228

26.5200

AUTHOR: Iskra, A. L. (Moscow)

TITLE: Calculation of heaters of a liquid undegroing forced motion

PERIODICAL: Inzhenernyy zhurnal, v. 2, no. 1, 1962, 17–28

TEXT: The heating of a liquid, flowing along a pipe at a rate G, from a given initial temperature t_{si} to a required final temperature t_{sf} by an electric heater of temperature t_h in contact with the liquid is considered for both stationary and non-stationary regimes. In the stationary case, the released heat is entirely transmitted to the liquid stream, and the following equations are established:

$$d\bar{t}_s = (\bar{t}_h - \bar{t}_s)du$$

$$\bar{t}_h - \bar{t}_s = W$$

where $\bar{t}$ = non-dimensional temperature, u = non-dimensional length of the heater (depending on G and the wetted perimeter of the heater), W = non-dimensional magnitude (depending on the electronic power supplied to the heater). As seen, one of the three variables $\bar{t}_s(u)$, $\bar{t}_h(u)$, and $W(u)$ can always be specified arbitrarily. The corresponding equations for the non-stationary case are:

$$\partial\bar{t}_s/\partial u = \bar{t}_h - \bar{t}_s$$

Card 1/2

X

$$\partial \bar{t}_h/\partial v + \bar{t}_h - \bar{t}_s = W$$

with the boundary conditions

$$\bar{t}_s(0,v) = f_1(v)$$

$$\bar{t}_h(u,0) = f_2(u)$$

where v is a non-dimensional time coordinate. These equations are integrated, and some concrete examples solved. The influence of the different parameters on the heater size is analysed. The method of calculation, and the results obtained, can be extended to the case of different types of heaters. There are 5 figures.

SUBMITTED: November 28, 1961

X

S/258/63/003/001/007/022
E200/E535

AUTHOR: Iskra A.L. (Moscow)

TITLE: Transient processes when charging with or shedding pressure in the equalization chamber of a wind tunnel with preheater

PERIODICAL: Inzhenernyy zhurnal, v.3, no.1, 1963, 55-62

TEXT: The problem is considered of filling the prechamber of a wind tunnel, fitted with a heater, using a regulating inlet valve and pressure relief by means of a safety valve. The obtained solutions are applicable in the selection of a regulation system, safety devices and systems of protection of the prechamber and the heater from excessive pressure gradients under steady and nonsteady state regimes. Cases investigated are: a) steady flow; b) pressure changes according to $P_2 = P_2(t)$; c) mass flow through inlet valve varies with time $Q_o = Q_o(t)$; d) safety valve working. In all cases it is assumed that $P_1 - P_2 =$ aerodynamic resistance of preheater and $Re \geqslant Re_{crit.}$
a) If P_2 is known, then other values can be obtained from $\rho w = \rho_1 w_1 = \rho_2 w_2 = Q/Fa = const$ and successive approximations of

Card 1/4

p_2/p_1.

b) Assume that T_2 is constant, then the equation of charging V_2 is

$$F_2 w_2 - F_* \left(\frac{2}{\varkappa + 1}\right)^{\frac{1}{\varkappa - 1}} a_* = \frac{V_2}{P_2} \frac{dP_2}{dt} \qquad (2.3)$$

from which it is possible to find the velocity at the point 2 and $Q_o(t)$, where F - cross-sectional area, Q - mass flow, w - velocity, $\nu = P_2/P_1 = p_2/p_1$.

c) Solution is based on:

$$\frac{dP_2}{dt} + AP_2 = BQ_o(t) \qquad (3.1)$$

where

$$A = \frac{1}{V_{\sqrt{T}}} F_* \left(\frac{2}{\varkappa + 1}\right)^{\frac{1}{\varkappa - 1}} a_*, \quad B = \frac{RT_2}{V_{\sqrt{T}}} \qquad (3.2)$$

$$V_{\sqrt{T}} = V_1 \frac{1}{\sqrt{\nu}} \frac{T_2}{T_1} + V_a \frac{1}{2}\left(1 + \frac{1}{\sqrt{\nu}} \frac{T_2}{T_1}\right) + V_2$$

Card 2/4

d) Let $P_2/P_1 = 1$, then the basic equation is

$$\frac{dP_2}{dt} + A_1 P_2 = BQ_o \qquad (4.3)$$

where

$$A_1 = \frac{1}{V_T}\left[F_3\left(\frac{2}{\kappa+1}\right)^{\frac{1}{\kappa-1}} a_{x3}\frac{T_2}{T_1} + F_x\left(\frac{2}{\kappa+1}\right)^{\frac{1}{\kappa-1}}\right] \qquad (4.4)$$

$$B = \frac{RT_2}{V_T}, \quad V_T = V_1\frac{T_2}{T_1} + V_a\frac{1}{2}\left(1+\frac{T_2}{T_1}\right) + V_2$$

Case (d) is solved for the two conditions of Q_o = const and $Q_o = Q_o(t)$. All cases are illustrated by numerical examples. There are 7 figures.

SUBMITTED: June 12, 1963.

Card 3/4

Iskra, A. S.

AID P - 992

Subject : USSR/Engineering

Card 1/1 Pub. 11 - 6/13

Authors : Slutskaya, T. M. and Iskra, A. S.

Title : High strength butt welds of 30 KhGSA and 38KhA steels

Periodical : Avtom. svar., #5, 58-65, S-O 1954

Abstract : The method of welding of structural alloyed steels is described. Complex alloying and thermal treatments of welded-over metal are used for obtaining a weld strength equivalent to the basic metal. Chemical, macro-and micro-structural analysis of the weld is presented together with the results of mechanical tests. Eight tables, 5 photographs and 5 Russian references (1947-53).

Institution : The Institute of Electric Welding im. E. O. Paton

Submitted : Je 19, 1954

ISKRA, A.S.

AID P - 5258

Subject : USSR/Engineering

Card 1/1 Pub. 11 - 9/15

Authors : Sterenbogen, Yu. A., V. V. Chernykh, D. P. Antonets, and A. S. Iskra (Electrowelding Institute im. Paton, Nov-Kramatorsk Heavy Machine-Building Plant, Zhdanov Machine-Building Plant)

Title : Special features of the resistance slag welding of 22K plate steel.

Periodical : Avtom. svar., 4, 96-103, Ap 1956

Abstract : The authors describe some chemical and mechanical characteristics of the 22K plate steel, the welding of this steel 200 to 270mm thick, and the tests given the finished specimens. The Sv10G2 electrode wire and the FTs-7 flux were used. Five tables, 2 photos and 1 drawing.

Institution : As above

Submitted : No date

ISKRA, A. S.

25(1) PHASE I BOOK EXPLOITATION SOV/3421

Akademiya nauk URSR, Kiyev, Institut elektrosvarki imeni akademika Ye.O. Patona

Vnedreniye novykh sposobov svarki v promyshlennost', vyp. 2 (Introduction of New Welding Methods in Industry; Collection of Articles, No. 2) Kiyev, Gos. izd-vo tekhn. lit-ry Ukrainskoy SSR, 1959. 194 p. Errata slip inserted. 3,000 copies printed.

Ed.: V. Garkusha; Tech. Ed.: S. Matusevich.

PURPOSE: This book is intended for workers in the welding industry.

COVERAGE: The book contains a discussion of welding techniques and problems by groups of scientists and welders. Much attention is given to problems in the application of new methods of mechanized welding and electro-slag welding. This is the second collection of articles under the same title prepared and published by the Institut elektrosvarki imeni Ye.O. Patona (Institute of Electric Welding imeni Ye.O. Paton). The preface is written by B.Ye. Paton, Academician of the Ukrainian Academy of Sciences and Winner of the Lenin Prize. There are no references.

3/7

ISKRA, A.S.

PHASE I BOOK EXPLOITATION SOV/5078

Akademiya nauk URSR, Kiyev. Instytut elektrozvaryuvannya

Vnedreniye novykh sposobov svarki v promyshlennost'; sbornik statey. vyp. 3. (Introduction of New Welding Methods in Industry; Collection of Articles. v. 3) Kiyev, Gos. izd-vo tekhn. lit-ry UkrSSR, 1960. 207 p. 5,000 copies printed.

Sponsoring Agency: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki imeni akademika Ye. O. Patona Akademii nauk Ukrainskoy SSR.

Ed.: M. Pisarenko; Tech. Ed.: S. Matusevich.

PURPOSE: This collection of articles is intended for personnel in the welding industry.

COVERAGE: The articles deal with the combined experiences of the Institut elektrosvarki imeni Ye. O. Patona (Electric Welding Institute imeni Ye. O. Paton) and several industrial enterprises in solving scientific and engineering problems in welding technology. Problems in the application of new methods of mechanized welding and electroslag welding in industry are discussed. This is the third collection of articles published under the same title. The Foreword was written by B. Ye. Paton, Academician of the Academy of Sciences Ukrainian SSR and Lenin prize winner. There are no references.

TABLE OF CONTENTS:

(15)

22951

S/125/61/000/007/007/013
D040/D113

1.2300 also 1573

AUTHORS: Slutskaya, T.M., and Iskra, A.S.; Ravin, M.M. (Moscow)

TITLE: Electro-slag welding process for 30-70 mm thick 30KhGSA steel

PERIODICAL: Avtomaticheskaya svarka, 14 no. 7, 1961, 65-70

TEXT: The application of the electro-slag welding process to 30ХГСА (30KhGSA) steel is investigated. Data were obtained under laboratory and shop conditions. Joints of up to 70 mm thickness were welded by an А-501М (A-501m) walking magnetic welder. Direct current with reversed polarity, an 18ХМА (18KhMA) electrode wire 2.5 mm in diameter, and an АН-8 (AN-8) flux were applied. Welding was done without traverse electrode oscillations. A special device was built for moving the welder off the workpiece. The test welding arrangement is illustrated (Fig. 1). The welding conditions finally chosen are as follows (Table 2):

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Electro-slag welding process...

Metal thickness, in mm	Number of electrodes	Electrode feed, in m/hr (per 1 wire)	Current, in amps (per 1 wire)	Voltage (in volts)	Slag bath depth, in mm	Dry electrode throat, in mm
70	2	180	300-325	34-36	40-45	35
30	1	180	275-300	40	30	35

The heat treatment is as follows: tempering at 690°C, oil quenching starting at 910° C and subsequent tempering at 510-550°C with cooling in air; 1 mm of the cross section of the metal is soaked for 3 min. The chemical composition of the steels and electrode wire used in experiments was (Table 1) as follows:

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Electro-slag welding process...

Metal	% Composition						
	C	Si	Mn	Cr	Mo	S	P
30KhGSA, 70 mm thick	0.32	0.93	0.90	0.94	-	0.029	0.029
30KhGSA, 30 mm thick	0.27	1.0	0.86	0.85	-	0.027	0.014
18KhMA wire	0.18	0.28	0.55	1.05	0.24	0.018	0.024

The following conclusions were drawn: (1) Standard 18KhMA wire and an AN-8 flux can be used for electroslag welding of 30KhGSA steel; (2) In the electro-slag welding of up to 70 mm thick 30KhGSA steel joints, neither preheating nor heating during the process is required; (3) The developed welding process ensures that the joints in 30KhGSA steel are sound and have satisfactory mechanical properties; (4) The strength of 30KhGSA steel joints after heat treatment equals 0.9 - 0.95 of the base metal strength; (5) The impact toughness of the weld metal and the metal near the welding area, after the above-described heat treatment, is higher than that of the base metal. There are 8 figures, 6 tables and 2 Soviet-bloc references.

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22951

S/125/61/000/007/007/013
D040/D113

Electro-slag welding process...

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O. Patona AN USSR (Electric Welding Institute "Order of the Red Banner of Labor" im. Ye.O. Paton AS UkrSSR) (Slutskaya, T.M. and Iskra, A.S.)

SUBMITTED: January 18, 1961

Card 4/5

MAKARA, A.M.; ISKRA, A.S.; YEGOROVA, S.V.; YUNGER, S.V.; GORKUNENKO, G.N.; NIKUYKO, N.A.; ZANDBERG, S.A.; BRONSHTEYN, L.M.

Technology of electric slay welding of petroleum refining and chemical apparatus without normalization. Avtom. svar. 18 no.5:11-16 My '65. (MIRA 18:6)

1. Institut elektrosvarki im. Ye.O. Patona AN UkrSSR (for Makara, Iskra, Yegorova). 2. VPTIkhimnefteapparatury (for Yunger, Gorkunenko, Nikuyko). 3. Volgogradskiy zavod im. Petrova (for Zandberg, Bronshteyn).

18(5) SOV/128-59-6-12/25

AUTHOR: Khakhalin, B.D., Candidate of Technical Sciences, Smolyakov, A.N., and Iskra, B.A., Engineers

TITLE: On the Question of Unequal Wall Thickness of Centrifugally Cast Pipes

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 6, pp35 - 37 (USSR)

ABSTRACT: Presently, two basic pouring methods (for centrifugal casting of coat iron water pipes) are used: sand molds and chilled metal dies. When pouring metal dies, the walls of the pipes differ in their thickness, those differences being greater than when pouring in sand molds. Probably this has been generated either by the imperfect casting method or by the imperfection of the pipe spinning machine. The author made one experiment to cast pipes of 300 mm in diameter on a pipe spinning machine type NIILITMAsh, 5.430 mm model, to determine the influence of the technological and the constructive factors on the thickness of the walls of the pipes. A typical result of the 37 tests made was that the

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On the Question of Unequal Wall Thickness of Centrifugally Cast Pipes

thickness of the walls was thinner at the funnel-shaped openings and at the smooth ends of the pipes, than at the center or half-length. Three tables list the results gained on various wall thickness. These results are to be explained by the difference in speed of the rotations, by the difference in spreading the liquid metal, and by the irregular flow of the metal (controlled upon estimation by sight). Based upon these tests, a table had been established serving as a practical guide when centrifugally casting water pipes. It establishes the different thicknesses of the wall (given in mm) by the variation of the speed of the pipe spinning machine(given in m/sec) for the distance (given in meter) fror the funnel-shaped opening ... to the smooth end of the pipe. To achieve this relation in a mechanical way the authors designed a spinning machine with hydraulic control regulating the flow of the liquid metal according to the speed of the pipe spinning machine. There are 6 graphs, 2 diagrams, and 7 tables

ISKRA, F.G.

Development of Russian pathology based on the teachings of I.P.Pavlov and the struggle against Virchow's theories. Medych. zhur. 23 no.1: 74-82 '53. (MLRA 8:2)
(PAVLOV, IVAN PETROVICH, 1849-1936)
(VIRCHOW, RUDOLPH, 1821-1902)
(PATHOLOGY)

ISKRA, F.G.

Medical use of antireticular cytotoxic serum (ATcS). Medych. zhur. 23 no.2:78-80 '53. (MLRA 8:2)
(SERUM THERAPY)

NIKOLAYEV, D.D.; ISKRA, G.S.; MEL'NICHENKO, A.F.; MAKAREVICH, Yu.S.; STARIKOV, A.A.; FOMOVSKIY, V.A.

Mechanization of the operations in selecting and preparing coal samples from railroad cars in the Gorlovka Coke and Chemical Plant. Koks i khim. no.2:6-10 '63. (MIRA 16:2)

1. Ukrinsugol' (for Nikolayev). 2. Gorlovskiy koksokhimicheskiy zavod (for Iskra, Mel'nichenko). 3. Dongiprouglemash (for Markarevich, Starikov, Fomovskiy).
(Gorlovka—Coke industry—Equipment and supplies)

ISKRA, J.

Printing films of polyvinyl chloride. p. 372. (PRZEMYSL CHEMICZNY, Vol. 10, No. 7, July 1954, Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

ISKRA, J.

15(8) . PHASE I BOOK EXPLOITATION POL/3268

Bajarski, J.; Master of Engineering; J. Brzeziński, Master of
Engineering; I. Dobosz, Master of Engineering; A. Dobraczyński,
Master of Engineering; E. Hertz, Master of Engineering;
J. Iskra, Master of Engineering; F. Kacprzak, Master of
Engineering; Z. Kowalski, Master of Engineering; W. Laskowski,
Master of Engineering; J. Loziński, Master of Engineering;
J. Pochwalski, Docent, Doctor; T. Wiecheć, Master of
Engineering, T. Wiśniewski, Master of Engineering, I. Zakrzewski,
Master of Engineering; W. Zieliński, Master of Engineering; and
E. Sowall, Scientific Coordinator, Master in Science

Co i jak produkować z tworzyw sztucznych (What Can Be Produced From
Plastics and How) Warsaw, Państwowe Wyd-wo Techniczne, 1959.
413 p. (Series: Tworzywa sztuczne przetwórstwo i zastosowaniye)
Errata slip inserted. 5,253 copies printed.

Coordinator of the Work: J. Brzeziński, Master of Engineering;
Reviewer: St. Chudzyński, Master of Engineering; Scientific Ed.
of Publishing House: St. Pietras, Master of Engineering and
E. Radziwill, Master in Science, Tech. Ed.: A. Urbanicki.

PURPOSE: This book is intended for chemists and equipment designers
in the plastics industry. It will be of interest to students of
the plastics industry.

COVERAGE: This book, one of a series on the plastics industry, is
divided into two parts. The first part discusses the classifi-
cation of plastics, methods of production, and the most common
uses of the end-products. The basic properties of individual
plastics are given in tabular form along with testing methods.
The second part contains a general discussion of all known
methods of processing plastics, thermoplastics, and thermo-
setting plastics. The design, construction, and parts of
processing machines are described. The techniques of dyeing,
metallization, machining, and welding of plastics are also
treated. A listing of terminology used in the plastics industry
is included. A table includes the trade names and producers of
major plastics. No references are given.

Card 2/8

STOJEW, St. [Stoyev, St.], doc.; HRANT, T. [Khrant', T.], inz.; BUCEW, H. [Butsev, N.], inz.; ISKRA, Jerzy, [translator] mgr. ins.

Electrodispersion method used in emulsification of coal flotation reagents. Przegl gorn 20 no.9:463-466 S '64.

ACC NR: AR6027472 SOURCE CODE: UR/0044/66/000/005/B103/B103

AUTHOR: Iskra, K. K.

TITLE: A scheme regarding the straight line method

SOURCE: Ref. zh. Matematika, Abs. 5B543

REF SOURCE: Sb. Tezisy dokl. Nauchn. sessii, posvyashch. 25-letiyu Grodnensk. ped. in-ta, 1965. Minsk, 1965, 107-110

TOPIC TAGS: differential equations, second order differential equations, difference method

ABSTRACT: The parabolic differential equation

$$\frac{\partial u}{\partial t} = a(x)\frac{\partial^2 u}{\partial x^2} + b(x)\frac{\partial u}{\partial x} + c(x)u + f(x, t),$$

is studied in the region $0 \leq x \leq 1$ with $t \geq 0$, $u(x,0) = \phi(x)$ initial and $u(0,t) = u(1t) = 0$ boundary conditions. The quotient of t in the above equation is substituted with a difference relationship of the form

$$\sum_{i=0}^{n} A_i u_{n-i}(x),$$

where the coefficients Ai have to satisfy certain conditions. The author establishes

Card 1/2 UDC: 518:517.944/.947

ACC NR: AR6027472

that conditions for rigidity of the obtained scheme depend on the roots of a characteristic equation. [Translation of abstract] Ya. Slikhashkin

SUB CODE: 12

Card 2/2

ISKRA K.K.

44-1-556

TRANSLATION FROM: Referativnyy Zhurnal, Matematika, 1957, Nr 1, p. 90 (USSR)

AUTHOR: Iskra, K. K.

TITLE: Some Theorems Concerning Series (Nekotoryye teoremy o ryadakh)

PERIODICAL: Uch. zap. Grodnensk. gos. ped.in-ta, 1955, Nr 1, pp. 41-50

ABSTRACT: The author introduces the definition: two series $\sum_1^\infty U_n$ and $\sum_1^\infty V_n$ ($U_n>0$, $V_n>0$) are called series with asymptotically identical terms, if there exist such constants $A>0$ and $B>0$ that $A<\frac{U_n}{V_n}<B$. The following theorem is proved: when two series $\sum_1^\infty U_n$ and $\sum_1^\infty V_n$ possess asymptotically identical terms, then both of them are either convergent or divergent. Definition: Two series $\sum_1^\infty U_n$ and $\sum_1^\infty V_n$ are called series with asymptotically identical terms in a restricted sense, if at the same time $\sum_1^\infty \left|\frac{U_n}{V_n}-\frac{U_{n+1}}{V_{n+1}}\right|<\infty$ and $\sum_1^\infty \left|\frac{V_n}{U_n}-\frac{V_{n+1}}{U_{n+1}}\right|<\infty$

Card 1/2

44-1-556

Some Theorems Concerning Series (Cont.)

Theorem: Two series with asymptotically identical terms in a restricted sense are either simultaneously convergent or simultaneously divergent. A demonstration is given of the application of the above theorems to the construction of the integral-convergence criterion of series with terms non-monotonically decreasing to zero.

I. V. Matveyev.

Card 2/2

GOLUCH, Antoni, mgr inz.; ISKRA, Ryszard, mgr inz.

Experiments with and tests of hydraulic valves. Przegl mech 22 no.5:138-141 10 Mr '63.

1. Bielskie Zaklady Urzadzen Technicznych, Bielsko-Biala.

PILAT, I.M.; ISKRA, V.D.; SHUMAN, V.B.

Electric properties of the intermetallic compounds CdSb with indium impurities. Fiz. tver. tela 1 no.3:393-396 Mr '59. (MIRA 12:5)

1.Chernovitskiy gosudarstvennyy universitet.
(Cadmium antimonide--Electric properties)

24,7600 (1035, 1043, 1144)

S/181/60/002/011/024/042
B006/B056

AUTHORS: Samoylovich, A. G. and Iskra, V. D.

TITLE: Effect of Crystal Anisotropy Upon Thermal Vibrations of Atoms in Ge and Si

PERIODICAL: Fizika tverdogo tela, 1960 Vol. 2, No. 11, pp. 2827-2833

TEXT: The present paper describes a theoretical study of the spectrum and polarization of acoustic phonons in germanium and silicon. It is shown that the anisotropic crystal of Ge or Si, which is characterized by the elastic moduli c_{11}, c_{12}, and c_{44} ($a^* = -c_{11}+c_{12}+2c_{44} \neq 0$), may well be replaced by an elastic and isotropic crystal whose elastic moduli are described by the following equations:

$$c'_{11} = \frac{1}{3}\left\{2c_{44} + c_{11} + 2(c_{11}-c_{44})\sqrt{1+\frac{3\,a^*(c_{11}+c_{12})}{5(c_{11}-c_{44})^2}}\right\},$$

$$c'_{44} = \frac{1}{3}\left\{2c_{44} + c_{11} - (c_{11}-c_{44})\sqrt{1+\frac{3\,a^*(c_{11}+c_{12})}{5(c_{11}-c_{44})^2}}\right\}, \quad a^{*\prime} = 0.$$

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Effect of Crystal Anisotropy Upon Thermal Vibrations of Atoms in Ge and Si

S/181/60/002/011/024/042
B006/B056

The constants have the following numerical values:

	c_{12}	c_{44}	c_{11}	c^*	c'_{11}	c'_{44}
Ge $[10^{12}\,dyn/cm^2]$	0.53	0.68	1.356	0.534	1.592	0.562
Si $[10^{12}\,dyn/cm^2]$	0.65	0.801	1.675	0.577	1.927	0.675

The spectrum of acoustic phonons is given as

$$\omega_1 = \sqrt{\frac{c_{44}}{\varrho}\left(k^2 + \frac{b}{3} + \frac{2b}{3}\sqrt{1 - 3\frac{c}{b^2}}\right)}\ ;\quad \omega_{2,3} = \sqrt{\frac{c_{44}}{\varrho}\left(k^2 + \frac{b}{3} - \frac{b}{3}\sqrt{1 - 3\frac{c}{b^2}}\right)}\ .$$

For Ge, $b = \frac{c_{11}-c_{44}}{c_{44}}k^2 = 0.994k^2$ and $c = -\frac{c^*(c_{11}+c_{12})}{c_{44}}\xi = -2.178\xi$;

for Si, $b = 1.091k^2$ and $c = -2.091\xi$. As ω_1 and ω_2 depend only little on the direction of the wave vector k, it is possible to average over the directions of k by putting $\xi = 1/5$. It can be shown that the polarisations of oscillations differ only little from those observed in an isotropic crystal. There are 4 figures, 2 tables, and 6 references: 2 Soviet and

Card 2/3

86437

Effect of Crystal Anisotropy Upon Thermal Vibrations of Atoms in Ge and Si

S/181/60/002/011/024/042
B006/B056

4 US.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad
(Institute of Semiconductors of the AS USSR, Leningrad)

SUBMITTED: July 10, 1960

Card 3/3

29684
S/181/61/003/010/006/036
B102/B108

24.7200 (1144, 1153, 1160)

AUTHORS: Samoylovich, A. G., Korenblit, I. Ya., Dakhovskiy, I. V., and Iskra, V. D.

TITLE: Solution of the kinetic equation for anisotropic electron scattering

PERIODICAL: Fizika tverdogo tela, v. 3, no. 10, 1961, 2939-2952

TEXT: Elastic electron scattering is studied theoretically under the following assumptions: The considered system is under the influence of an external electric field and a temperature gradient. The electron energy spectrum is given by $\varepsilon = \sum_{i=1}^{3} \frac{\hbar^2 k_i^2}{2m_i}$. Electric field and temperature gradient are weak, no magnetic field exists. The kinetic equation is given as

$$-\hat{D}n_{\mathbf{k}}^{(0)} + \hat{R}n_{\mathbf{k}}' = 0. \qquad (1.2)$$

$$\hat{R}n_{\mathbf{k}}' = \sum_{\mathbf{k}'} W_{\mathbf{k}\mathbf{k}'}(n_{\mathbf{k}'}' - n_{\mathbf{k}}'), \qquad (1.3).$$

Card 1/5

Solution of the kinetic equation...

$n_{\vec{k}}^{(0)}$ denotes the equilibrium distribution function, $n_{\vec{k}}$ the nonequilibrium correction to it, $\hat{D}n_{\vec{k}}^{(0)}$ the free term

$$\hat{D}n_{\vec{k}}^{(0)} = \frac{1}{\hbar}\frac{\partial n_{\vec{k}}^{(0)}}{\partial \varepsilon}\left[\sum_i \frac{\partial \mu}{\partial x_i}\frac{\partial \varepsilon}{\partial k_i} + \frac{\varepsilon-\mu}{T}\sum_i \frac{\partial T}{\partial x_i}\frac{\partial \varepsilon}{\partial k_i} - e\sum_i \frac{\partial \varepsilon}{\partial k_i}\mathcal{E}_i\right], \quad (1,4)$$

of the kinetic equation, μ the chemical potential, $\mathcal{E}$ the external electric field, $\hat{R}$ the collision operator: $\hat{R}n_{\vec{k}} = \sum_{ij}\chi_i(\varepsilon)\nu_{ij}k_j$, with

$n_{\vec{k}} = \sum_i \chi_i(\varepsilon)k_i$ (1.5) and

$$\sum_{\vec{k}'} W_{\vec{k}\vec{k}'}(k_i' - k_i) = \sum_j \nu_{ij}(\varepsilon)k_j; \quad (1,7)$$

Since (1.5) and (1.7) are not valid in every case, the authors tried to establish a method which makes it possible to find out in which cases (1.5) and (1.7) hold true and to solve the kinetic equation also when the aforementioned conditions are not valid. First, "deformed" coordinates are introduced in the quasimomentum space and the free term

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Solution of the kinetic equation...

(1.4) is transformed into $\hat{D}n_k^{(0)} = \sum_m D_m Y_{1m}(\vartheta_0 \varphi_0)$ so that the kinetic equation goes over into an infinite system of linear algebraic equations. The solution has to be sought as an expansion into spherical harmonics $n_k^1 = \sum_{km} X_{km}(\varepsilon) \cdot Y_{km}(\vartheta_0 \varphi_0)$. The collision operator is then given by

$$\hat{R}n_k' = -\sum_{jkmp} X_{km}(\varepsilon) B_{jk}(mp) Y_{jp}(\vartheta_0 \varphi_0), \qquad (2,8)$$

$$-\sum_{jp} B_{jp}(mp) Y_{jp}(\vartheta_0 \varphi_0) = \hat{R} Y_{km}(\vartheta_0 \varphi_0). \qquad (2,9)$$

and $\sum_{km} B_{jk}(pm) X_{km} = D_p \delta_{j_1}$, or, for $B_{jk}(pm) = B_{jk}(m)\delta_{mp}$, $\sum_k B_{jk}(m) X_{km} = D_m \delta_{j_1}$ (2,11). The coefficients $B_{jk}(pm)$ are found to be

Card 3/5

Solution of the kinetic equation...

$$B_{jk}(pm)=\frac{4\sqrt{2m_1m_2m_3}}{(2\pi\hbar)^3}p^{m-2}\sum_{s=0}^{\infty}\sqrt{\frac{(2j+1)(2k+1)(j-s)!(k-s)!}{(j+s)!(k+s)!}}\times$$

$$\times\int d\Omega\int_0^{\frac{\pi}{2}}d\theta\sin\theta\cos\theta W'(\theta\varphi)P_j^s(\cos\theta)P_k^s(\cos\theta)P_{jk}^l(\cos\theta)\times \qquad (3.33)$$

$$\times\dot{P}_{lm}^{jk}(\cos\theta)e^{i(m-s)\varphi};$$

$d\Omega=\sin\theta d\theta d\varphi$.

where j and k are odd numbers. An iteration method is employed for the determination of X_{1m} in the system (2.11). The quickly converging series

$$X_{1m}=D_m\sum_i\frac{Z_{i-1}^2}{\Delta_i(m)\Delta_{i-1}(m)}, \qquad (4,6)$$

$$Z_{i-1}(m)=\begin{vmatrix} B_{31}(m) & B_{33}(m) & \dots & B_{3,2i-3}(m) \\ \dots & \dots & \dots & \dots \\ B_{2i-1,1}(m) & B_{2i-1,3}(m) & \dots & B_{2i-1,2i-3}(m) \end{vmatrix}; Z_0=1. \qquad (4,7)$$

is derived. The authors have used this method before to investigate electron scattering from impurity ions and acoustic phonons (results published elsewhere). Finally, a method of solving the kinetic equation,

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S/181/61/003/010/006/036
B102/B108

Solution of the kinetic equation...

which is based on the use of eigenfunctions of R is discussed in brief. There are 12 references: 9 Soviet and 3 non-Soviet. The reference to the English-language publication reads as follows: J. M. Ziman, Canad. Journ. Phys., 34, 1256, 1956.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors AS USSR, Leningrad)

SUBMITTED: March 31, 1961

Card 5/5

30774
S/181/61/003/011/006/056
B102/B138

24.7200 (1144,1153,1160)

AUTHORS: Samoylovich, A. G., Korenblit, I. Ya., Dakhovskiy, I. V., and Iskra, V. D.

TITLE: Anisotropic scattering of electrons from ionized impurities and acoustic phonons

PERIODICAL: Fizika tverdogo tela, v. 3, no. 11, 1961, 3285-3298

TEXT: In continuation of two previous papers (Ref. 1: FTT, 3, 10, 1961 and Ref. 2: DAN SSSR, 139, 355, 1961) the authors theoretically investigated inelastic electron scattering from impurity ions and acoustic phonons in cubic crystals. First the probability of scattering from impurity ions in a cubic crystal with isotropic dielectric constant is calculated in Born's approximation:

$$W(\theta\theta\varphi)=\frac{2\pi}{\hbar}N|V_{kk'}|^2=\frac{\pi^2e_0^4N\hbar^3}{2\varepsilon^2m_3^2\varkappa^2\left[\left(\cos^2\theta+\frac{m_1}{m_3}\sin^2\theta\right)\cos^2\theta+\gamma^2\right]^2}. \qquad (1.6)$$

ε is the dielectric constant, $\gamma=\hbar^2/8a^2m_3\varepsilon$, a - shielding radius,

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N - number of impurity ions per cm^3, $V_{kk'}$ - transition matrix element

[Abstracter's note: Denotations and basic equations are taken from Ref. 1. It is impossible to follow the calculations if Ref. 1 is not available.]

In the next section the coefficients $B_{jk}(m)$ and the first terms of the X_{1m} series are determined approximately. The following results were obtained:

$$B_{jk}(0)=\frac{\pi C}{4}\ln\frac{1}{\gamma^2}\frac{m_2^2}{m_1^2\beta^2}\sqrt{(2j+1)(2k+1)}\times$$

$$\times\sum_{s=0}^{\infty}\frac{(j+s)!!\,(k+s)!!\,(j-s)!!\,(k-s)!!}{(k+s-1)!!\,(j+s-1)!!\,(k-s-1)!!\,(j-s-1)!!}, \qquad (2.8)$$

with

$$C=\frac{\pi N e_0^4 m_1}{\sqrt{2}\,\pi^3 m_2^{3/2}\varepsilon_0^{3/2}}; \qquad (2.2)$$

The approximate value $B_{jk}(0)\approx B_{jk}(0)$.

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$$X_{10}=\frac{D_0}{B_{11}(0)}(1+0.72+0.015+0.00018+\ldots). \qquad (2.9),$$

$$X_{11}=\frac{D_1}{B_{11}(1)}(1+0.72+0.015+\ldots). \qquad (2.12)$$

The third section deals with the relaxation time tensor for scattering from impurity ions. Relaxation time is assumed to be isotropic:

$$\tau^{-1}=\frac{N\pi e_0^4}{\varepsilon^2\sqrt{2m^*\varepsilon^3}}\left(\ln\frac{1+\gamma^2}{\gamma^2}-\frac{1}{1+\gamma^2}\right). \qquad (3.9).$$

The non-vanishing components of the τ-tensor are given by

$$\left.\begin{aligned}\tau_{33}&=\chi_0=\frac{1}{B_{11}(0)}(1+g_0),\\ \tau_{11}=\tau_{22}&=\chi_1=\frac{1}{B_{11}(1)}(1+g_1).\end{aligned}\right\} \qquad (3.7)$$

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with $X_{1m} = D_m \chi_m$,

$$\chi_m = \frac{1}{B_{11}(m)}\left[1 + \frac{B_{13}^2(m)}{B_{11}(m)B_{33}(m) - B_{13}^2(m)}\right], \quad (3.1)$$

$$B_{11}(0) = \frac{3\pi N e_0^4 \sqrt{2m_3}}{8\pi^3 e^{3/2} m_1 \beta^3}\left\{2\left(\operatorname{arc\,tg}\beta - \frac{\beta}{1+\beta^2}\right)\ln\frac{1}{\gamma^2} - 2\operatorname{arc\,tg}\beta \ln(1+\beta^2) + \right. \quad (3.2).$$

$$\left. + 4L(\operatorname{arc\,tg}\beta) + (1+\beta^2)\left[\operatorname{arc\,tg}\beta + \frac{\beta(\beta^2-1)}{(1+\beta^2)^2}\right]\gamma^2\right\},$$

Thus for $B_{11}(m)$

$$B_{11}(1) = \frac{3\pi N e_0^4 \sqrt{2m_3}}{8\pi^3 e^{3/2} m_1 \beta^3}\left\{[(\beta^2-1)\operatorname{arc\,tg}\beta + \beta]\ln\frac{1}{\gamma^2} - \right. \quad (3.10)$$

$$- 2\beta^2 \operatorname{arc\,tg}\beta - (\beta^2-1)\operatorname{arc\,tg}\beta \ln(1+\beta^2) + 2(\beta^2-1)L(\operatorname{arc\,tg}\beta) + \quad (3.11)$$

$$\left. + \frac{1+\beta^2}{2}\left[(3\beta^2-1)\operatorname{arc\,tg}\beta + \frac{\beta(3\beta^2+1)}{1+\beta^2}\right]\gamma^2\right\};$$

with the Lobachevskiy function $L(t) = -\int_0^t \ln\cos x\,dx$. As has already been shown in Ref. 1, all fluxes can be expressed by the relaxation

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time tensor. Its components depend only on energy. In section 4 the probability electron of scattering from acoustic phonons is determined by means of the deformation potential.

$$W(\theta\varphi)=\frac{\pi kT}{2\rho V\hbar}\sum_{\alpha}\frac{1}{\Omega_{\alpha}^{2}(\theta\varphi)}\left[\sum_{il}D_{il}(\eta_i e_l^{\alpha}+\eta_l e_i^{\alpha})\right]^2, \qquad (4.7)$$

$$\eta_1=\sqrt{m_1}\sin\theta\cos\varphi,\quad \eta_2=\sqrt{m_2}\sin\theta\sin\varphi,\quad \eta_3=\sqrt{m_3}\cos\theta. \qquad (4.8)$$

is found, where D_{il} is the tensor of the deformation potential constants, e^{α} the polarization vector, ρ the crystal density, V its volume, $\Omega_{\alpha}(\vartheta,\varphi)$ is a certain function of the angles ϑ and φ. In section 5 the properties of the coefficients

$$B_{jk}(pm)=\frac{4\sqrt{2m_1m_2m_3}}{(2\pi\hbar)^3}i^{m-p}\sum_{\alpha,\sigma\tau}\mathcal{L}^{\alpha}_{j\sigma}\mathcal{R}^{\alpha}_{j\tau}(pm), \qquad (5.1)$$

with

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$$\mathcal{L}^{s}_{jk} = 2\sqrt{\frac{(j-s)!\,(k-s)!}{(j+s)!\,(k+s)!}}\int_{0}^{\frac{\pi}{2}} d\vartheta \sin\vartheta\cos\vartheta\, \dot{P}^{s}_{j}(\cos\vartheta)\, P^{s}_{k}(\cos\vartheta), \qquad (5.2)$$

$$\mathcal{R}^{s}_{jk}(pm) = \int d\Omega \dot{P}^{p}_{jp}(\cos\vartheta)\, \dot{P}^{s}_{km}(\cos\vartheta)\, e^{i(m-p)\varphi}, \qquad (5.3)$$

are investigated. The $\mathcal{L}^{(0)}_{jk}$ and $\mathcal{L}^{(2)}_{jk}$ are tabulated for some j and k values. In the last section the relaxation time tensor is calculated for electron scattering from acoustic phonons in Ge, Si and Bi_2Te_3. For k = j = 1 and $W(\vartheta', \varphi') = W(\vartheta', \pi + \varphi')$ the general formulas are given:

$$\begin{cases} B_{11}(00)\, X_{10} = D_0, \\ B_{11}(11)\, X_{11} + B_{11}(1, -1)\, X_{1,-1} = D_1, \\ B_{11}(-1, 1)\, X_{11} + B_{11}(-1, -1)\, X_{1,-1} = D_{-1}. \end{cases} \qquad (6.1)$$

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$$n'_k = n'_{\bar{k}} = \frac{D_0 Y_{10}(\vartheta_0\varphi_0)}{B_{11}(00)} + \frac{D_{-1}B_{11}(11) - D_1 B^*_{11}(1,-1)}{B^2_{11}(11) - |B_{11}(1,-1)|^2} Y_{1,-1}(\vartheta_0\varphi_0) + \frac{D_1 B_{11}(11) - D_{-1}B_{11}(1,-1)}{B^2_{11}(11) - |B_{11}(1,-1)|^2} Y_{11}(\vartheta_0\varphi_0). \quad (6.2)$$

$$B_{11}(1,-1) = |B_{11}(1,-1)| e^{i\psi} \quad (6.3)$$

$$\tau_{11} = \frac{B_{11}(11) - |B_{11}(1,-1)|\cos\psi}{B^2_{11}(11) - |B_{11}(1,-1)|^2}; \quad \tau_{22} = \frac{B_{11}(11) + |B_{11}(1,-1)|\cos\psi}{B^2_{11}(11) - |B_{11}(1,-1)|^2};$$
$$\tau_{33} = \frac{1}{B_{11}(00)}; \quad \tau_{12} = \sqrt{\frac{m_1}{m_2}} \frac{|B_{11}(1,-1)|\sin\psi}{B^2_{11}(11) - |B_{11}(1,-1)|^2}; \quad (6.4).$$
$$\tau_{21} = \frac{m_2}{m_1}\tau_{12}.$$

Then they are applied first to Ge and Si, then to Bi_2Te_3. There are 5 figures, 5 tables, and 14 referenoes: 9 Soviet and 5 non-Soviet. The three references to English-language publications read as follows: R. B. Dingle, Phil. Mag., 46, 831, 1955; F. Ham. Phys. Rev. 100, 1251,

Card 7/8

30774
S/181/61/003/011/006/056
B102/B138

Anisotropic scattering of electrons ...

1955; J. R. Drabble a. R. Wolfe. Proc. Phys. Soc. B69, 1101, 1956.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors AS USSR, Leningrad)

SUBMITTED: May 9, 1961

Card 8/8

ISKRA, V.D.

Electroacoustic effect in n-Ge and n-Si. Fiz. tver tela 5 no.9: 2663-2673 S '63. (MIRA 16:10)

1. Chernovitskiy gosudarstvennyy universitet.

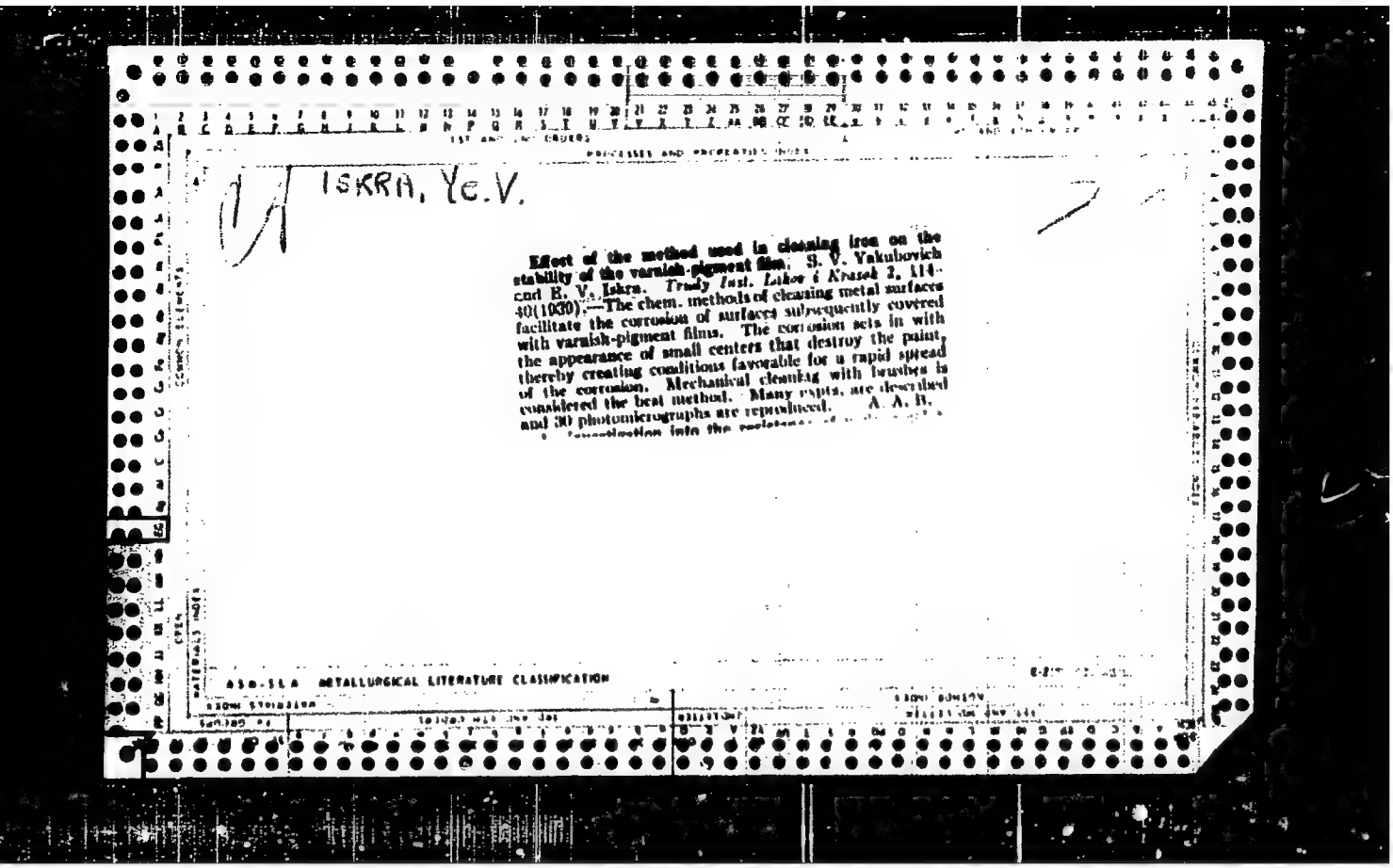
ISKRA, Viktor Maksimovich; LARICHEV, V.I., red.; SHADRINA, N.D., tekhn.red.

[Automation--abundance or new calamities?] Avtomatizatsiia - izobilie ili novye bedstviia? Moskva, Izd-vo VTsSPS Profizdat, 1959. 117 p. (MIRA 13:7)

(Automation)

ISKRA, V.M.; SIDEL'NIKOV, I.I.

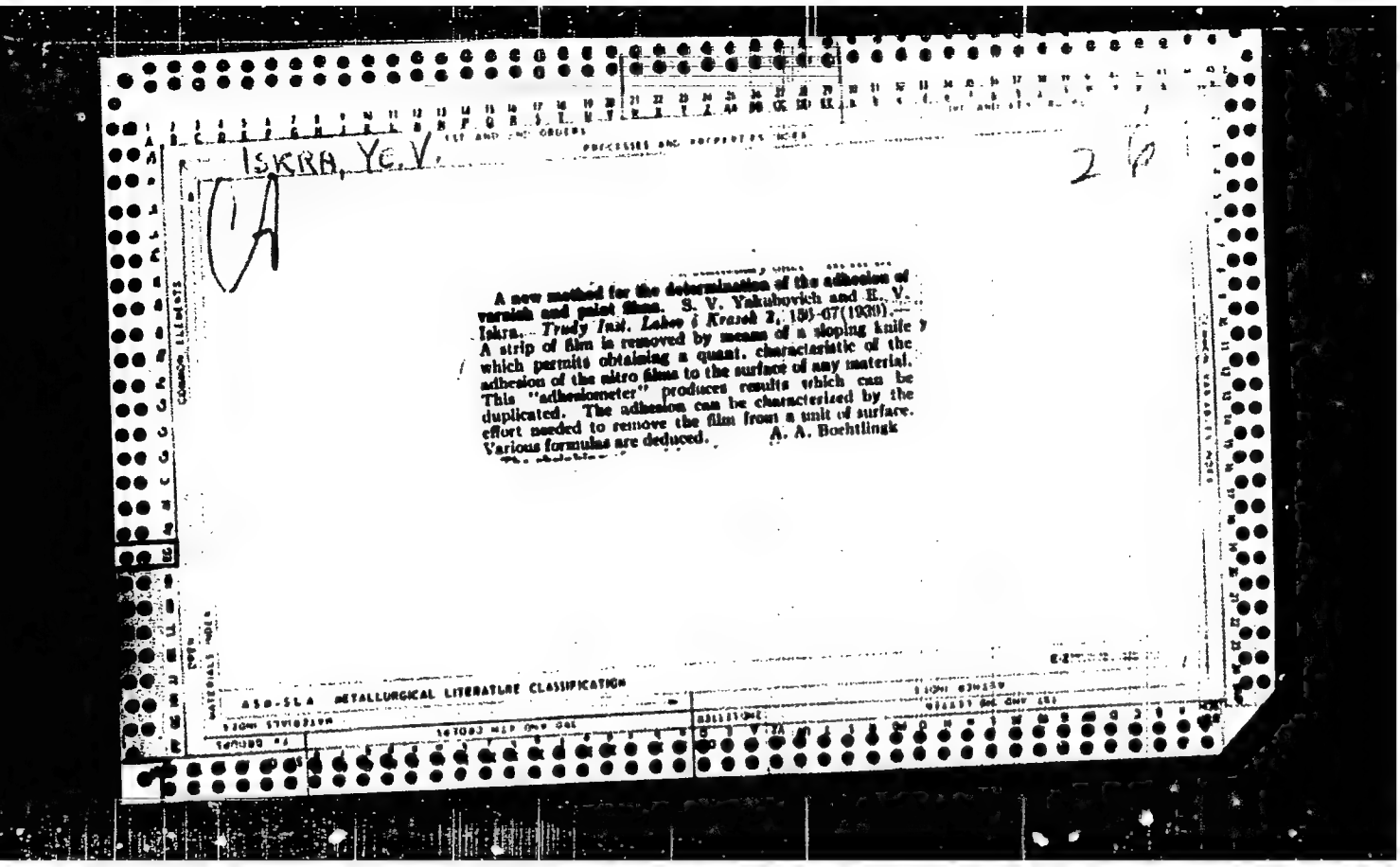
[The village is studying]Selo uchitsia. Moskva, Sovetskaia Rossiia, 1962. 78 p. (MIRA 16:1)
(Agriculture—Study and teaching)



ISKRA, Ye.V.

Effect of the method used in cleaning iron on the stability of the varnish-pigment film. S. V. Yakubovich and E. V. Iskra. *Trudy Inst. Lakov i Krasek* 2, 114-40(1939).—The chem. methods of cleaning metal surfaces facilitate the corrosion of surfaces subsequently covered with varnish-pigment films. The corrosion sets in with the appearance of small centers that destroy the paint, thereby creating conditions favorable for a rapid spread of the corrosion. Mechanical cleaning with brushes is considered the best method. Many expts. are described and 30 photomicrographs are reproduced. A. A. B.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



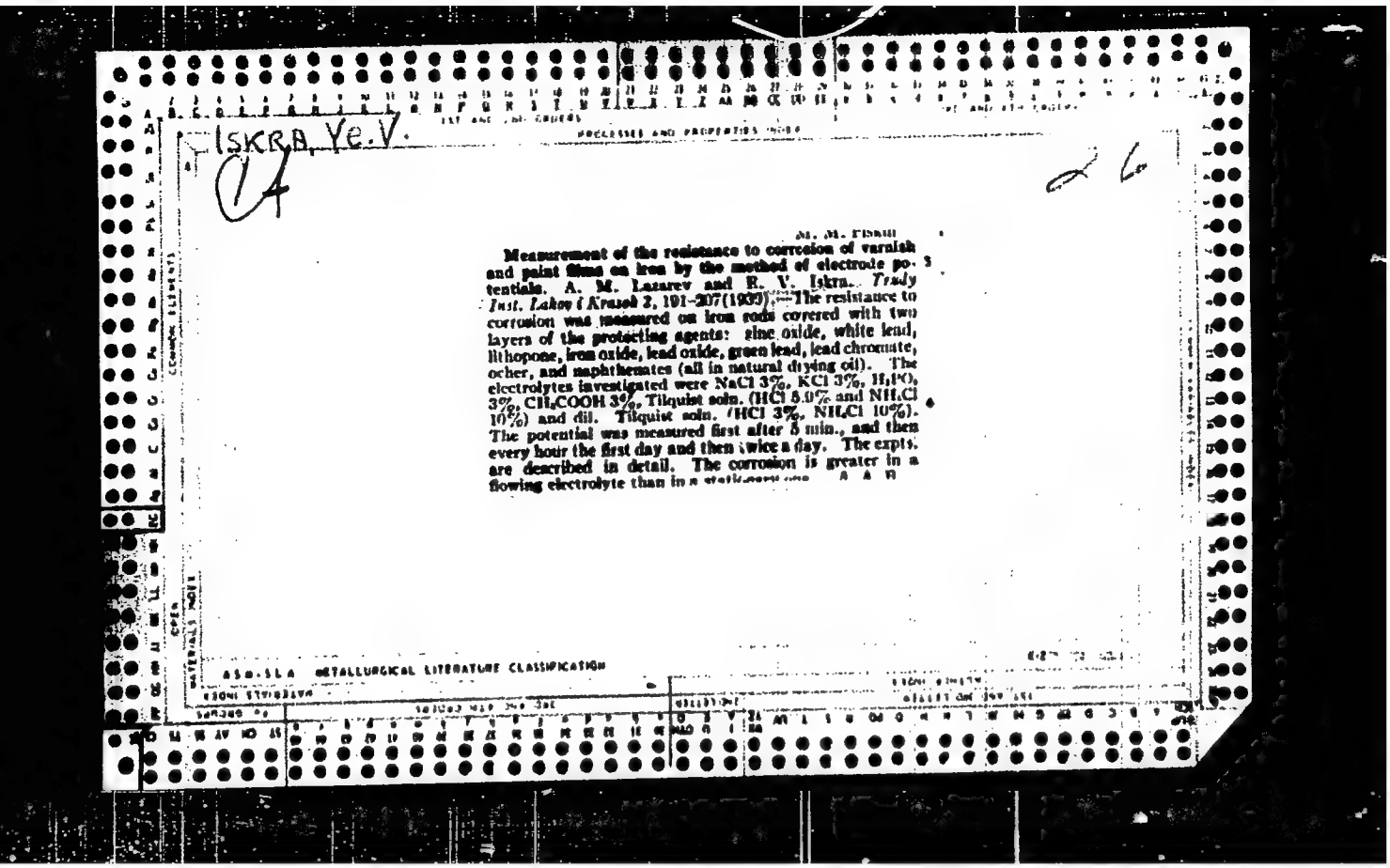
ISKRA, Ye. V.

CA

2 P

A new method for the determination of the adhesion of varnish and paint films. S. V. Yakubovich and E. V. Iskra. *Trudy Inst. Lakov i Krasok* 2, 183-97(1939).—A strip of film is removed by means of a sloping knife which permits obtaining a quant. characteristic of the adhesion of the nitro films to the surface of any material. This "adhesiometer" produces results which can be duplicated. The adhesion can be characterized by the effort needed to remove the film from a unit of surface. Various formulas are deduced. A. A. Boehtlingk

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION

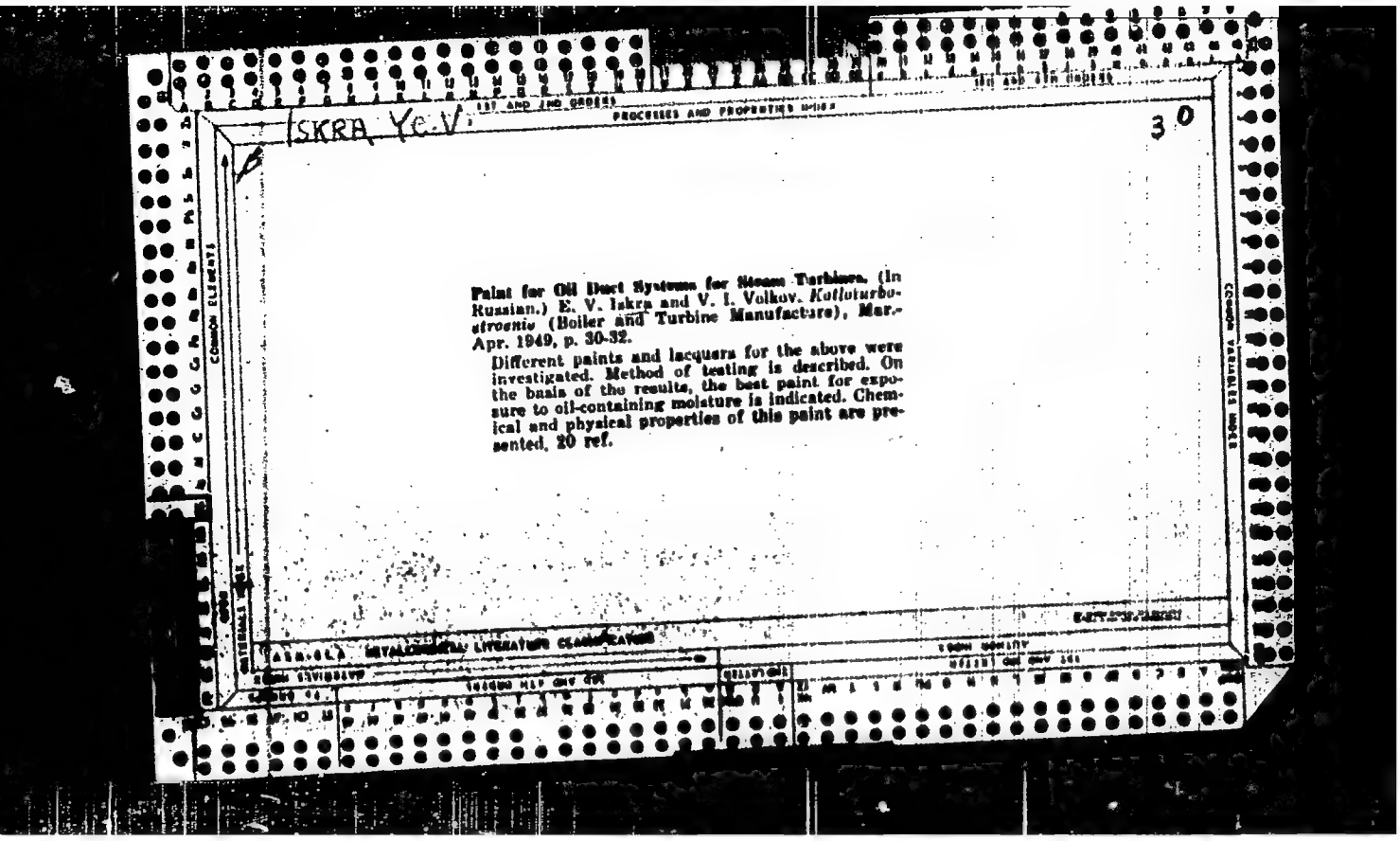


ISKRA, Ye.V.

14

Measurement of the resistance to corrosion of varnish and paint films on iron by the method of electrode potentials. A. M. Lazarev and E. V. Iskra. *Trudy Inst. Lakov i Krasok* 2, 191–207(1935).—The resistance to corrosion was measured on iron rods covered with two layers of the protecting agents: zinc oxide, white lead, lithopone, iron oxide, lead oxide, green lead, lead chromate, ocher, and naphthenates (all in natural drying oil). The electrolytes investigated were NaCl 3%, KCl 3%, H_3PO_4 3%, CH_3COOH 3%, Tilquist soln. (HCl 5.0% and NH_4Cl 10%) and dil. Tilquist soln. (HCl 3%, NH_4Cl 10%). The potential was measured first after 5 min., and then every hour the first day and then twice a day. The expts. are described in detail. The corrosion is greater in a flowing electrolyte than in a

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



ISKRA, Ye.V.

30

Paint for Oil Duct Systems for Steam Turbines. (In Russian.) E. V. Iskra and V. I. Volkov. *Kotloturbostroenie* (Boiler and Turbine Manufacture), Mar.-Apr. 1949, p. 30-32.

Different paints and lacquers for the above were investigated. Method of testing is described. On the basis of the results, the best paint for exposure to oil-containing moisture is indicated. Chemical and physical properties of this paint are presented. 20 ref.

ISKRA, Ye.V., zaveduyushchiy laboratoriyey.

Improving the design of viscosimeters. Standartizatsiia no.5: 72-73 S-O'54. (MLRA 8:2)
(Viscosimeter)

ISKRA, Ye.V., inzhener.

Improving the quality of coal-tar lacquers. Standartizatsiia no.1:62-63 Ja-Fe '56. (MLRA 9:2)
(Coal-tar products) (Lacquer and lacquering--Standards)

ISKRA, Ye.V., kandidat tekhnicheskikh nauk.

Economizing red lead. Sudostroenie 22 no.1:22-25 Ja '56.
(Ships--Painting) (Red lead) (MLRA 9:7)

ISKRA, Ye.V., kandidat tekhnicheskikh nauk.

Adhesives for insulating materials. Sudostroenie 22 no.8: 22-25 Ag '56. (MLRA 9:10)

(Adhesives) (Insulating materials)

Iskra, Ye. V.

USSR/ Chemistry - Paints

Card 1/1 Pub. 128 - 26/33

Authors : Iskra, Ye. V.

Title : Oil-resistant paints

Periodical : Vest. mash. 36/1, 71-75, Jan 1956

Abstract : Tests were conducted on various type of paints used for coating of turbine components to determine their rate and drying ability at normal and increased temperatures, color and clearness, their stability and ease of cleaning with various agents (kerosene, alcohol, etc.) and their resistance to the action of oils. Results of the above mentioned tests, as well as technical specifications regarding types of paints and oils used, are given. Three USSR references (1939-1948). Tables.

Institution : .....

Submitted : .....

ISKRA, Ye. V.

137-58-3-5695

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 172 (USSR)

AUTHORS: Bogorad, I. Ya., Iskra, Ye. V.

TITLE: Protection of Metals Against Corrosion and Finishing Coatings (Zashchita metallov ot korrozii i otdelochnyye pokrytiya)

PERIODICAL: Sb. inform. statey dlya sudostroiteley. Leningrad, Sudpromgiz, 1957, pp 199-230

ABSTRACT: The following novel lacquer-paint materials are described: a) undercoatings: 329-V, 329-D, ALG-12, AG-3a, KhSG-7, ASB-1, UBG-1; b) benzine- and water-resistant enamels, as well as enamels of epoxy-citrocellulose and perchlorovinyl types; c) heat-resistant organic silicon and polyurethan lacquers, etc. Fields of employment and technological peculiarities of application of the materials listed above are described together with detergent compounds of the OP-7 and OL-10 types. The authors also report on a method employing an endless abrasive band for polishing purposes, a system of wear-resistant anodic oxidation of Al, a method of anodizing with subsequent painting under Au, a phosphate-oxide method for the treatment of Al, and on novel Ge rectifiers with liquid cooling. Also described

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Protection of Metals Against Corrosion . . (cont.)

is a magnetic apparatus for the determination of the thickness of coatings and a device operating on a principle involving determination of intensity of β radiation, as well as a number of devices employed in automatic regulation and control of processes of electrodeposition of metals. The authors include a brief report on methods of corrosion prevention in nuclear reactors and in reservoirs. An electrical dust counter of FPG-6 type controlling the degree of dust pollution of air is described.

N. K.

Card 2/2

AUTHOR: Iskra, E.V. (TsNII MSP). 166

TITLE: Modified coal pitch lacquers. (Modifitsirovannyye kamennougol'nyye laki).

PERIODICAL: "Koks i Khimiya" (Coke and Chemistry), 1957, No.3, pp.47-49 (U.S.S.R.)

ABSTRACT: Painting and anticorrosive properties of modern pitch lacquers can be considerably improved by some additives. As an additive the use of 50% ethrinal lacquer or lacquer VKhL is recommended. There is one table.

1. Tsentral'nyy nauchno-issledovatel'skiy inst. Ministerstva avtostroitel'noy promyshlennosti.
(Varnish and Varnishing) (Coal-tar products)

ISKRA, Ye.V.

Roller brush painting. Rech.transp. 16 no.5:39-40 My '57.
(MLRA 10:5)

(Ships--Painting)

ISKRA, Ye.V., kand.tekhn.nauk.

Ship painting with emulsion paints. Sudostroenie 23 no.12:43-45 D '57. (MIRA 11:2)
(Ships--Painting) (Emulsions)

ISKRA, Ye.V.

Painting seagoing ships with ethynol paints. Mor. flot 18 no.5:12-13 My '58. (MIRA 11:6)

1.Nachal'nik laboratorii Vsesoyuznogo tsentral'nogo nauchno-issledovatel'skogo instituta sudostroitel'noy promyshlennosti.
(Ships--Painting)

ISKRA, Ye. V., kand.tekhn.nauk

Causes of premature fouling of ship bottoms. Sudostroenie 24 no.5:41-43 My '58. (MIRA 11:6)
(Fouling of ship bottoms)

ISKRA, Ye.V., kand.tekhn.nauk

Methods of removing old paint. Sudostroenie 25 no.2:52-53 F '59.
(MIRA 12:4)

(Ships--Maintenance and repair)
(Paint removers)

PHASE I BOOK EXPLOITATION SOV/4978

Iskra, Yevgeniy Vasil'yevich

Etinolevyye kraski; primeneniye v sudostroyenii i drugikh otraslyakh promyshlennosti (Acetylene Dyes; Their Application in Shipbuilding and Other Branches of Industry) Leningrad, Sudpromgiz, 1960. 178 p. 6,400 copies printed.

Scientific Ed.: B. P. Favorov; Ed.: T. A. Kliorina; Tech. Ed.: Yu. N. Korovenko.

PURPOSE: This book is intended for technical personnel in shipbuilding and repair yards; it may also be used by design and planning organizations.

COVERAGE: The book contains detailed data on synthetic vinyl paints. It describes the technology for the manufacture of paints, fillers, mastics, and corrosion-resisting substances based on vinyl lacquers. It covers modified vinyl coatings, their properties, and technology of manufacture. The use of vinyl coatings in industry and agriculture is

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discussed and specific fields of application are listed in the appendix. No personalities are mentioned. There are 22 references, all Soviet.

TABLE OF CONTENTS:

ISKRA, Ye.V., kand.tekhn.nauk

Safety measures for painting operations in shipbuilding. Sudostroenie 29 no.10:53-56 O'60. (MIRA 13:10)
(Ships--Painting) (Shipbuilding--Safety measures)

ISKRA, Ye.V., kand.tekhn.nauk

Methods of protecting ship mechanisms. Trudy NTO sud.prom. 32:49-55 '60. (MIRA 13:6)
(Marine engineering) (Corrosion and anticorrosives)

S/191/60/000/009/003/010
B013/B055

AUTHORS: Iskra, Ye. V., Shtaykhman, G. A., Li, P. Z., Mikhaylova, Z.V., Sedov, L. N., Al'shits, I. M., Kats, L. F., Papysheva, Ye.V., Eksanov, V. A.

TITLE: Glass Fiber Laminates. 12. Dyeing of Polyester Glass-reinforced Plastics

PERIODICAL: Plasticheskiye massy, 1960, No. 9, pp. 11 - 15

TEXT: The present work deals with the dyeing of glass-reinforced polyester plastics and the dyes used for this purpose. The investigation showed that polyester resins may be colored satisfactorily with azo-, anthraquinone-, and triphenyl-methane dyes, phthalocyanine pigments, and others. The results obtained with several vat dyes and direct dyes were unsatisfactory. Inorganic pigments and dyes gave less brilliant hues than organic colorants. The results of the investigation showed that most dyes retard the gelling process. This retardation, however, is comparatively insignificant so that the properties of the hardened resin are hardly affected. To obtain well-colored products, the resin is generally applied

Glass Fiber Laminates. 12. Dyeing of Polyester Glass-reinforced Plastics

S/191/60/000/009/003/010
B013/B055

in two thin layers, a coat thickness of 0.4 - 0.7 mm being advisable. In practical use, structural glass-reinforced plastics are often exposed to sunlight. This necessitates the use of specially light-fast dyes. The color stability of samples was tested both in the laboratory under a ПРК-4 (PRK-4) quartz lamp and in open air, on roofs in Leningrad and Moscow. The following facts were established: 1) Polyester resins turn yellowish under sunlight. This is particularly noticeable with the lighter shades. 2) Inorganic pigments are the most light-fast. Direct introduction of the dye or pigment is the most expedient way of dyeing, but cannot be repeated. It is often the case, however, that the color of some structural part dyed in this manner must be renewed owing to damage or fading. This can only be done by applying enamel or oil paint. Some recipes for decorative units are given. According to destination, structural glass-reinforced plastics may be exposed to salt water, petroleum products, mineral oils, alkaline, and acid media. The coloring of plastics was stable for 4500 h in sea water, 3 h in boiling water, 3000 h in mineral oil, 24 h in 10% H_2SO_4, and 24 h in 2% NaOH. There are 5 tables and 5 non-Soviet references.

Card 2/2

ISKRA, Yevgeniy Vasil'yevich, kand. tekhn.nauk; AKATOVA, N.V., inzh., red.; GRIGOR'YEVA, I.S., red.izd-va; BELOGUROVA, I.A., tekhn. red.

[Painting of nonferrous metals] Okraska tsvetnykh metallov. Leningrad, 1961. 12 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Zashchitnye pokrytiia, no.12) (MIRA 15:6)

(Nonferrous metals—Painting)
(Protective coatings)

ISKRA, Ye.V.

Coal-tar colors for ships. Koks i khim. no.7:53-54 Jl '61.
(MIRA 14:9)

(Ships--Painting)

L 11285-63 EWP(j)/EWT(m)/BDS—AFFTC/ASD—Pc-4—RM

ACCESSION NR: AT3001261 S/2915/62/013/000/0003/0006

AUTHOR: Iskra, Ye. V.

TITLE: Modern methods for combatting fouling

SOURCE: AN SSSR. Okeanograficheskaya komissiya. Trudy, v. 13, 1962. Zashchita ot morskogo obrastaniya, 3-6

TOPIC TAGS: marine antifouling coating

ABSTRACT: Various organic compounds, particularly derivatives of benzoic, dichloroacetic, and trichloroacetic acids, have been tested and used recently in the USSR as antifouling coatings for ship bottoms. Other materials used with varying degrees of success include 1) TFK, a thermoplastic coating from which toxic copper, zinc, and organic compounds are leached (effective for 25—40 months); 2) TKhN, a cold plastic coating from which toxic copper arsenic, zinc, and linoleates are leached (effective for 15—24 months); and 3) a cathode scale layer which can be removed, along with the fouling matter, by changing its polarity (effective for 8—12 months).

Card 1/2

ISKRA, Yevgeniy Vasil'yevich; PETRENKO, L.T., inzh., retsenzent; KOTSEVALOVA, Ye.I., nauchn. red.; SOSIPATROV, O.A., red.; SHISHKOVA, L.M., tekhn. red.

[Safety measures during painting operations in shipbuilding] Tekhnika bezopasnosti pri maliarnykh rabotakh v sudostroenii. Leningrad, Sudpromgiz, 1963. 86 p. (MIRA 16:9)
(Ships--Painting)
(Shipbuilding--Safety measures)

ISKRA, Yevgeniy Vasil'yevich, kand. tekhn. nauk; GUREVICH, Yefim Samoylovich, kand. tekhn. nauk; REYEMAN, A.I., red.; FREGER, D.P., red.izd-va; GVIRTS, V.L., tekhn. red.

[Modern ship paints; a review] Sovremennye sudovye kraski; obzor. Leningrad. Pts.1-2. 1963. (MIRA 16:9)
(Ship--Painting) (Paint materials)

ISKRA, Ye.V.

Use of paint and lacquer coatings for the protection of hydraulic structures against fouling. Lakokras.mat. i ikh prim. no.2:37-39 '63. (MIRA 16:4)

(Marine fouling) (Protective coatings)

ISKRA, Ye.V.; TURPAYEVA, Ye.P.; SOLDATOVA, I.N.; SIMKINA, R.G.

Effect of some poisonous substances on the major fouling organisms in Taganrog Bay. Trudy Inst. okean. 70:259-269 '63. (MIRA 17:7)

ISKRA, Yevgeniy Vasil'yevich; KUTSEVALOVA, Yelizaveta Pavlovna; FAVOROV, Boris Pavlovich; MOSKALEV, A.T., inzh., retsenzent; GRACHEV, N.D., inzh., retsenzent; KONONOV, M.D., inzh., retsenzent; ASHONEVITTS, G.Yu., nauchn. red.; NIKITINA, M.I., red.

[Painting operations in shipbuilding] Maliarnye raboty v sudostroenii. Leningrad, Sudostroenie, 1965. 237 p. (MIRA 18:5)

L 05135-65 EWT(m)/EPF(c)/EWP(i)/EWP(b)/EWP(t) IJP(c) JD/WB

ACCESSION NR: AP5021619 UR/0286/65/000/013/0098/0098

AUTHORS: Iskra, Ye. V.; Sokolov, O. M.

TITLE: A method for passivating purified steel. Class 48, No. 172587

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 98

TOPIC TAGS: steel, passivator additive, titanium compound, SKS 65 GP(i) latex, aubiral, mazhef salt

ABSTRACT: This Author Certificate presents a method for passivating purified steel by introducing aqueous solutions of titanium onto the surface to be passivated. To improve the protective quality of the film, SKS-65 GP(i) latex, or a solution of polyvinyl aubiral, or aqueous solution of an Mn, Fe, and P preparation (mazhef salt) is added to the passivating titanium solutions.

ASSOCIATION: Organizatsiya gosudarstvennogo komiteta po sudostroyeniyu SSSR (Organization of the State Committee on Ship Building, SSSR)

SUBMITTED: 08May63 ENCL: 00 SUB CODE: MM, IE

NO REF SOV: 000 OTHER: 000

Card 1/1

L 38694-66 EWT(m)/EWP(j)/EWP(t)/ETI IJP(c) JD/WB/RM

ACC NR: AP6016745 (N) SOURCE CODE: UR/0229/65/000/012/0065/0069

AUTHOR: Iskra, Ye. V.; Sokolov, G. M.

46
B

ORG: None

TITLE: A primer for protecting bare metal from corrosion 14

SOURCE: Sudostroyeniye, no. 12, 1965, 65-69

TOPIC TAGS: corrosion, corrosion protection, corrosion resistance, rust preventative, paint, welding

ABSTRACT: Data are given from tests of the possibility for using tannin in aqueous solutions and in latex for passivating bare metal surfaces. The results show that an iron tannate film is formed when a bare steel surface is treated in tannate solution. This tannate film has good passivating properties. The iron tannate film is not very resistant to water and fails quickly under the effect of atmospheric precipitation. The low resistance to water and atmospheric precipitation disqualify it as a means for passivating metal and metal structures. The passivating compound KRT-1 based on latex and tannin compounds is capable of protecting metal from corrosion for a period of 12 to 14 months. Films of this new compound have been studied and the techniques for its use are recommended for shipbuilding. Tests show that a film of the compound KRT-1 on the surface of a metal does not have any detrimental effect on painting or welding operations. Orig. art. has: 9 tables.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 002

Card 1/1 vmb UDC: 629.12.657

KUPTSIS, Anna Mikhaylovna; BASENKO, Margarita Anatol'yevna; SAPUNOVA, Tamara Alekseyevna; ISKRA, Ye.V., red.

[Protection of apparatus with paint and varnish coatings] Zashchita priborov lakokrasochnymi pokrytiiami. Leningrad, 1964. 22 p. (MIRA 17:11)

ISKRENKO, I.A.

Human Anatomy

Dissertation: "Abnormalities of the Peritoneal Cabity of the Human Organism." Cand Med Sci, Minsk State Medical Inst, 18 Mar 54. (Sovetskaya Belorussiya, Minsk, 7 Mar 54).

SO: SUM 213, 20 Sep 54

found in the region of the duodenum which were named duodenal and left duodenojejunal recesses. Two recesses were found next to the cecum. Abdominal recesses were encountered in males and females with variously shaped abdomens. In one case only were no recesses demonstrated. The duodenojejunal recess was found in 64.3% of cases. The shape of its cavity and its size, location and direction were variable. 7 types of recesses were

Card : 1/2 -5-

USSR/Morphology of Man and Animals. Digestive System. S-1

Abs Jour: Referat Zh.-Biol., No 1, 10 January 1958, 2826.

distinguished in the duodenum and duodenojejunal flexure. Only in 9 cases were there no recesses next to the cecum. In 21 cases the right paracolic recess, and in 4 cases the left paracolic recess were found. In three cases paracolic recesses were found on the right and left sides. The intersigmoid recess was encountered in 59.3% of cases. Paracecal recesses were divided into upper and lower, ileocecal and retrocecal.

ISKRENKO,I.A.; REDINA,I.F.; SHOTT,A.V. (Minsk)

Second Conference of Surgeons in White Russia. Khirurgiia no.3:143-147 '63. (MIRA 16:5)
(SURGERY--CONGRESSES)

ZINOV'YEV, V.N.; ZYMALEV, G.S.; ISKRENKO, I.V.

Working thin deposits at the Il'ich mine. Gor. zhur. no.4:23-26 Ap '65. (MIRA 18:5)

1. Trest Dzerzhinskruda, Krivoy Rog.

ISKREZHITSKAYA, A. I.

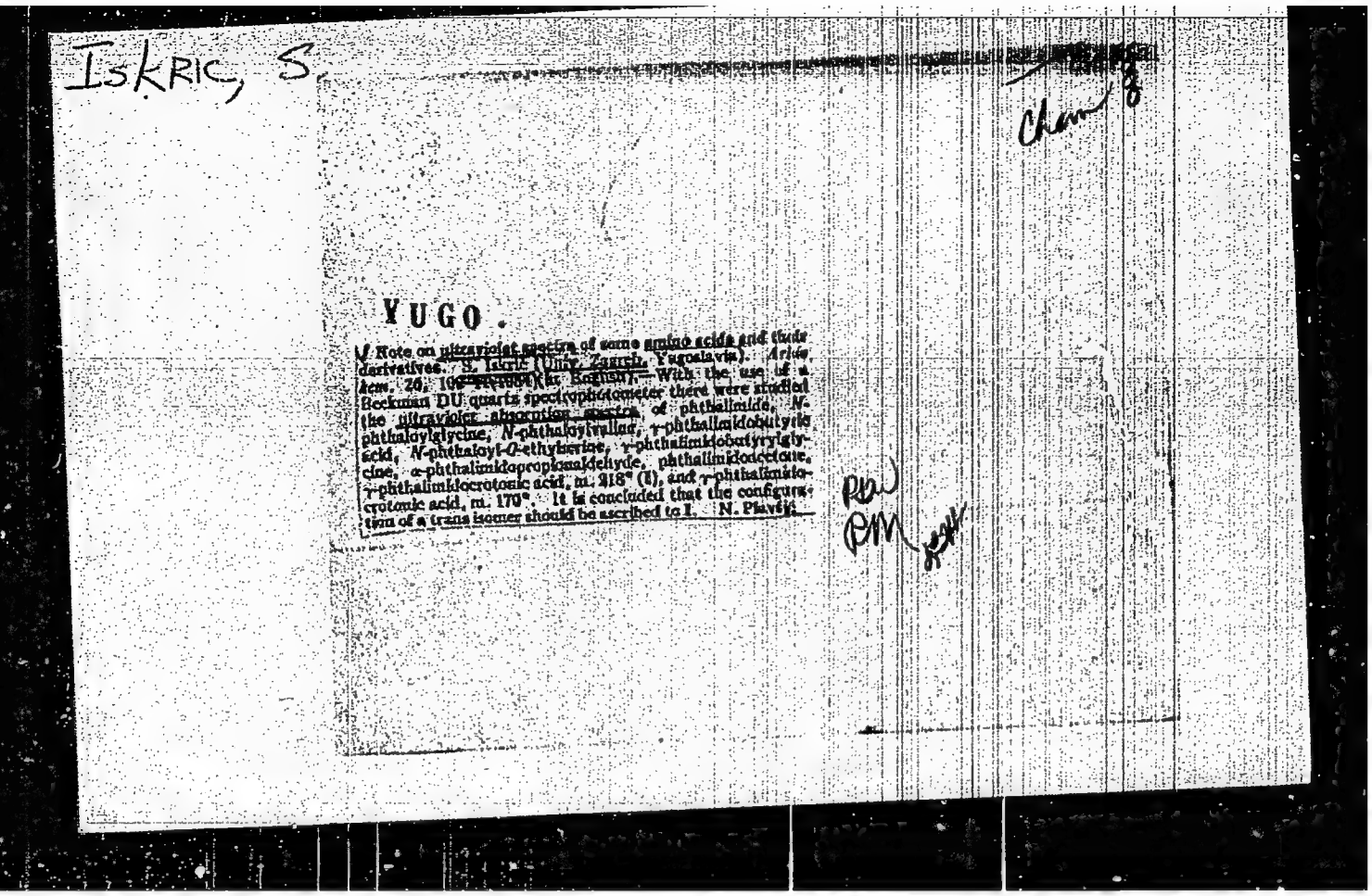
"Study of the effect of some antibiotics and their combinations in the treatment of experimental diphtherial infection."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists, 1959.

ISKRIC, S.

"Partition paper chromatography of some B-amino acids", p. 83 (Arhiv Za Kemiju., Vol. 24, 1952, Zagreb)

SO: Monthly List of East European Accessions, Vol. 2, No 9 Library of Congress, September 1953, Uncl.



Iskric, S.

Chem

YUGO.

Note on ultraviolet spectra of some amino acids and their derivatives. S. Iskrić (Univ. Zagreb, Yugoslavia). *Arhiv. Kem.* 20, 109–[illegible]Kr. Englisch.—With the use of a Beckman DU quartz spectrophotometer there were studied the ultraviolet absorption spectra of phthalimide, *N*-phthaloylglycine, *N*-phthaloylvaline, γ-phthalimidobutyric acid, *N*-phthaloyl-*O*-ethylserine, γ-phthalimidobutyrylglycine, α-phthalimidopropionaldehyde, phthalimidoacetone, γ-phthalimidocrotonic acid, m. 218° (I), and γ-phthalimidocrotonic acid, m. 170°. It is concluded that the configuration of a trans isomer should be ascribed to I. N. Plavšić

RDW
PM

ISKRIC, S.

YUGOSLAVIA / Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61045.

Author : D. Keglevic-Brovet, S. Kveder, S. Iskric.
Inst : -
Title : The Synthesis of ^{14}C Labelled Serotonin [2-(5'--hydroxy-indolyl-3')-ethylamine-$1^{14}C$].

Orig Pub: Croat. chem. acta, 1957, 29, No 3-4, 351-355.

Abstract: With a view to study the metabolism, serotonin-C^{14} (I) was synthetized by the interaction of 5-benzyloxygramine sulfomethylate (II) with $NaC^{14}N$, the reduction of 2-(5'-benzyloxiindolyl-3')-acetonitryl-[1-C^{14}] (III) with $LiAlH_4$ to amine (IV) and

Card 1/4

YUGOSLAVIA / Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61045.

Abstract: the debenzylization of IV to I. I was separated as a complex with creatinine sulfate. 1.1 mmole of 5-benzyloxygramine in 2.5 ml of water and peroxide-free tetrahydrofuran (V) acidified with 1 drop of glacial CH_3COOH is added drop by drop at 0° in the duration of 20 min. to 0.5 ml of $(CH_3O)_2SO_2$, 0.5 ml. of water-free V and 1 drop of glacial CH_3COOH, the mixture is stirred, and 12 hours later (0°) the yield of II is 98 to 100%. 1 mmole of $NaC^{14}N$ (with an excess of 0.75 mole of NaOH), of radio-activity a = 1 mcurie, in 3 ml of water is added to the solution of 1.1 mole of II in 4 ml of water (without CO_2), the mixture is neutralized with 1 n. H_2SO_4 to pH = 11.9, heated 2.5 hours at 70 to 75°, and 4 hours later (20°) it is extracted with

Card 2/4

YUGOSLAVIA / Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61045.

Abstract: water-free ether, evaporated in a N_2 flow, and the residue is chromatographed on Al_2O_3, the yield of III is 82%. 216 mg of III and 0.3 g of $LiAlH_4$ in ether produce IV, yield 74% referred to $NaC^{14}N$. The solution of 0.74 mmole of IV in 15 ml of CH_3OH is debenzylized at 20° under atmospheric pressure on 200 mg of 10%-ual $Pd/BaSO_4$, the solution is acidified with 0.74 ml of 1 n. H_2SO_4, evaporated, the residue is dissolved in 4 ml of hot water, 0.74 mmole of creatinine and 0.74 ml of 1 n H_2SO_4 are added, the mixture is heated at 50 to 60° (in a bath), 20 ml of acetone is added in portion

Card 3/4

YUGOSLAVIA / Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61045.

Abstract: under shaking, the mixture is left to age 12 hours at 0°; the yield of the creatininesulfate complex of I is 59% (referred to $NaCl^{4}N$), melting point 211 to 213°, a = 0.69 mcurie per 1 mmole.

Card 4/4

ISKRIN, Mikh.

State Experimental Institute of Design and Construction of Coal Mining Machinery versus Arkushenko. Izobr. i rats. no.6:28-29 Je '61. (MIRA 14:6)

(Coal mining machinery)

ISKRIN, M.G. (Moskva)

Bioelement arsenic. Priroda 54 no.4:105 Ap '65. (MIRA 18:5)

ISKRINA, N.

Founder of advanced piloting. Grazhd.av. 14 no.2:33 F '57.
(MIRA 10:5)
(Nesterov, Petr Nikolaevich, 1887-)

TSVILLING, M.Ya.; YAKHONTOV, Yu.A.; ISKRITSKAYA, L.I.; MOLODETS, V.N.; YEVSIN, A.D.; BLEDNEV, A.I., dotsent, kand.voyenno-morskikh nauk, kapitan 1 ranga, red.; KHUPENNIKOVA, I.A., red.; YAKIMOVICH, Yu.K., red.-leksikograf; KUZ'MIN, I.F., tekhn.red.

[German-Russian naval dictionary] Nemetsko-russkii voyenno-morskoi slovar'. Sost.M.IA.TSvilling i dr. Pod obshchei red. A.I.Bledneva. Moskva, Voen.izd-vo M-va obor.SSSR, 1961. 456 p. (MIRA 14:3)

(German language--Dictionaries--Russian)
(Naval art and science--Dictionaries)

ISKRITSKIY, D. Ye.

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 571 - I

Call No.: AF306474

BOOK
Authors: ISKRITSKIY, D. YE. and TSYDZIK, P. V.
Full Title: LABORATORY MANUAL FOR AIRCRAFT STRUCTURAL MECHANICS
Transliterated Title: Rukovodstvo k laboratornym rabotam po stroitel'noy mekhanike samoleta

PUBLISHING DATA
Originating Agency: None
Publishing House: State Publishing House of the Defense Industry (Oborongiz). Main Editorial Office of Aviation Literature
Date: 1948 No. pp.: 123 No. of copies: 6,000
Editorial Staff:
The authors express thanks for valuable help to the following: N. I. Marin, Doc. of Tech. Sci., A. M. Cheremukhin, Prof., Doc. of Tech. Sci., A. Yu. Romashevskiy, Prof., and B. T. Borodkin, Eng., Senior laboratory worker of the Chair "Aircraft Structural Mechanics" of the Kuybyshev Aviation Institute.
PURPOSE: A manual for students of aviation institutes
TEXT DATA
Coverage: This book is concerned only with static tests. It acquaints students of aviation institutes who conduct laboratory work in the course of aircraft structural mechanics with: 1. loading equipment

AID 571 - I

Rukovodstvo k laboratornym rabotam po stroitel'noy mekhanike samoleta

and measuring instruments used in testing structural elements of an aircraft (two and three-dimensional girders, plates supported along a prescribed contour, double tee beams with thin web, open and multi-connected profiles and thin-walled beams with diaphragms); 2. methods of experimental verification of theoretical assumptions; 3. procedure in the performance of tests and processing of their results.

No. of References: 14 Russian, 1932-1947

Facilities: Kuybyshev Aviation Institute; Central Aero-Hydrodynamical Institute - TsAGI.

2/2

ISKRITSKIY D.Ye.

SLOBODKIN, M.I., professor, doktor tekhnicheskikh nauk; ISKRITSKIY, D.Ye., dotsent, kandidat tekhnicheskikh nauk; SNITKO, I.M., otvetstvennyy redaktor; ALADOVA, Ye.I., tekhnicheskiy redaktor.

[Kinematics, dynamics and strength calculations for mine-hoist cages] Kinematika, dinamika i raschet na prochnost' kletei shakhtnogo pod"ema. Moskva, Ugletekhizdat, 1954. 402 p. (MLRA 7:11)
(Mine hoisting)